CATHERINE HWU

CONTACT

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EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY

August 2019 - May 2023 (Expected)
GPA: 4.0 / 4.0
B.S. Electrical Engineering & Computer Science

LYNBROOK HIGH SCHOOL

August 2015 - June 2019
GPA: 4.0 / 4.0
GPA (Weighted): 4.375 / 4.0

SKILLS

Proficient: Java, Python, Scheme, SQL, Git, IntelliJ, Numpy

Familiar: HTML, CSS, NodeJS

Adobe Creative Suite: Photoshop, Lightroom, InDesign

Art Mediums: Installation, Digital Media, Graphite, Printmaking

COURSEWORK

Completed:

The Structure and Interpretation of Computer Programs (CS61A)

Data Structures (CS61B)

Multivariable Calculus (MATH53)

Designing Information Devices and Systems (EE16A, EE16B)

Social Implications of Computer Technology (CS195)

In Progress:

Computer Architecture (CS61C)

Discrete Mathematics and Probability Theory (CS70)

Principles & Techniques of Data Science (DATA100)

Efficient Algorithms and Intractable Problems (CS170)

AWARDS

Grace Hopper Celebration GHC 2020 Scholars Program - *AnitaB.org*
UC Berkeley Edward Frank Kraft Award
National Merit Finalist
AP Scholar with Honor
Presidential Service Award

PROFESSIONAL EXPERIENCE

EDLYFT (YCOMBINATOR W20 STARTUP)

Internship - Mentor for CS61BL (Data Structures) Cohort | *May 2020 - Present*

- Facilitate weekly lessons to guide a cohort of 10+ students concurrently enrolled in Berkeley's CS61BL Data Structures course
- Oversee weekly office hours and project parties, which has resulted in increased collaboration and improved conceptual understanding among students
- Organize weekly conceptual review and discussion sections, which has led to higher concept retention and increased comfortability with exam-level problems among students
- Spearheaded a 5-module introductory curriculum to equip students for the course

UC BERKELEY ELECTRICAL ENGINEERING & COMPUTER SCIENCE (EECS)

Academic Intern for CS61BL (Data Structures) | *June 2020 - Present*

- Identify and clarify students' misconceptions on concepts and daily lab assignments
- Educate students on course concepts (Java, Data Structures, Algorithms) during lab sections
- Teach students how to debug and test their implementations during daily lab sections

HYGIENE HEROES - HAAS SCHOOL OF BUSINESS PROFESSOR DAVID I. LEVINE

Research Assistant & Game Developer | *January 2020 - Present*

- Advance Hygiene Heroes mission of educating children in developing countries about important hygiene practices through digital and interactive board games
- Develop a Game Engine program to expedite the game creation process for designers
- Analyze and assess necessary components for user interaction to improve the approachability and accessibility of the Game Engine product

UC BERKELEY SOCIETY OF WOMEN ENGINEERS (SWE)

SWE++ Co-Chair | *May 2020 - Present*
Elementary & Middle School Outreach Officer | *December 2019 - May 2020*
SWE Science Committee Member | *September 2019 - December 2019*

- Chair a 10-week programming course to teach middle school girls Python and Scratch
- Direct a committee to coordinate Tech Day, a day of engineering activities and workshops
- Provide educational opportunities for students from minority groups and low income families
- Developed a marketing campaign that increased interest for monthly SWE Science events
- Created At-Home Science Curriculum to support STEM education during COVID-19 pandemic
- Launched SWE Science Kits Program to provide over 50 students with science kits

UC BERKELEY ASSOCIATION OF WOMEN IN EE & CS (AWE)

Operations Officer | *December 2019 - Present*

- Oversee the budget, reimbursements, and funding processes for thousands of dollars
- Update website to promote club activities to 150+ members and dozens of corporate sponsors
- Redesigned the funding process to help internal departments manage their allocated funds
- Coordinated a Virtual Cal Day Panel for 100+ prospective UC Berkeley students
- Deployed a Slack Bot to track analytics on member attendance and event feedback

PROJECTS

PERSONAL WEBSITE AND PORTFOLIO

HTML, CSS | Personal Project | *June 2020 - July 2020*

- Designed and programmed a personal website to showcase my accomplishments and projects

HYGIENE HEROES GAME ENGINE

Java, LibGDX | Research Project | *January 2020 - Present*

- Developed using JAVA and LibGDX to enable deployment on multiple platforms (Web, Mobile)
- Customizes a board game based on a spreadsheet configuration file specifying numerous features (token images, game board, action for each square on the board)

SLACK BOT FOR ASSOCIATION OF WOMEN IN EE & CS (AWE) WORKSPACE

Slack API, NodeJS, Google Script, HTML | Student Organization Project | *April 2020 - Present*

- Designed and integrated a Slack Bot to AWE's Slack Workspace using NodeJS and BotKit
- Developed a web app with Google Scripts to collect and write data from the Slack Bot onto a Google Spreadsheet for AWE's internal team
- Slack Bot streamlines the event check in and feedback collection process, allowing officers to monitor event attendance and respond promptly to member suggestions and preferences

GITLET (MINI VERSION CONTROL SYSTEM)

Java | Class Project | *April 2020*

- Programmed a mini version control system that mimics the functionality of Git
- Encompassed SHA1 hashing, file persistence, serialization, and graph traversals

LINES OF ACTION BOARD GAME WITH AI

Java | Class Project | *April 2020*

- Incorporated game trees, the minimax algorithm, and alpha-beta pruning in AI player design
- Devised a heuristic for evaluating the potential of a given board state for a certain player